

REMARKS

Claims 1-15 and 17-22 are currently pending. In the Office Action, claims 1, 9-13 and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kudo et al. (“Kudo”, Pat. No. 7,023,458) in view of Kato (US 2002/0126112), and claims 2-4, 14-15 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kudo in view of Kato and Suzuki et al. (“Suzuki”, US Pat. No. 6,157,335).

Claims 5-8 were objected to as being dependent upon a reject base claim, but were otherwise considered allowable.

Applicant respectfully traverses the §103(a) rejection of claims 1, 9-13 and 18-22 as being unpatentable over Kudo in view of Kato.

In the “Response to Arguments” section of the Office Action, it was stated that “the limitation of selectively decoupling second resistors at corresponding intermediate locations could not be found anywhere in claim 1.” While this is true that claim 1 does not include this particular language, Applicant did not argue this point with respect to claim 1 but instead argued this point with respect to claim 5. Specifically, Applicant argued that “[c]ontrary to that stated in the Office Action, Kudo does not show selectively decoupling second resistors at corresponding intermediate locations and inserting corresponding adjustable tap resistors as recited in claim 5.” Claim 5 recites “wherein each of said switch sets is operative, when selected, to decouple said Q second resistors at a corresponding one of said Q-1 intermediate locations and said end location and to insert a corresponding one of said M adjustable tap resistors”, so that claim 5 does recite this language (rather than claim 1). Claim 5 has been deemed otherwise allowable, so that this point, at least with respect to claim 5, is moot.

Nonetheless, the point that Applicant was attempting to make was that claim 5 was allowable over Kudo in view of Kato for the reasons stated therein. And since claim 5 is now allowed, at least some portion of this argument must have been persuasive. Yet Applicant further amended claim 1 “to incorporate a generalized version of the language in claim 5 as fully supported by the application as filed” so that claim 1 should likewise be allowable. Contrary to that stated in the Office Action, claim 1 is allowable over Kudo in view of Kato, since Kudo in view of Kato does not show a “resistor ladder including M adjustable tap resistors distributed along said resistor ladder, each providing a corresponding one of M tap voltages distributed according to a gamma correction value, wherein M is a positive integer”, in which the resistor ladder comprises “a plurality of first resistors coupled in series, each of said plurality of first resistors comprising a plurality of second resistors coupled in series forming a plurality of intermediate locations” and “select logic which inserts each of said M adjustable tap resistors into said resistor ladder into M of said plurality of first resistors by inserting a corresponding one of said M adjustable tap resistors at a selected one of said plurality of intermediate locations of a corresponding one of said plurality of first resistors, and that selects a tap point of each of said M adjustable tap resistors to select each of said M tap voltages based on corresponding select values” as recited in claim 1.

FIG. 3 of Kudo shows the resistance ladder 307, which includes variable resistors 321 to 324 and resistive voltage division circuits 326 to 331 (see Kudo description beginning col. 7, line 44). Kudo describes the configuration of the resistive voltage division circuits 326 to 331 in FIGs 7A and 7B as described beginning col. 13, line 25 (it is noted that there does not appear to be FIGs. 7E and 7C as stated therein). Yet as

shown and described in FIG. 7A of Kudo, the fixed resistors 1R are not selectively inserted but instead are fixed within the resistance ladder 307 of FIG. 3. As shown and described in Kudo, the circuits 701 and 703 are controlled to select one of the “micro adjustment gray scale voltages A to H” (Kudo, col. 13, lines 30-36) by selecting one of the junctions at A-H. Such configuration of Kudo does not show select logic which inserts each of M adjustable tap resistors into a resistor ladder into M of a plurality of first resistors by inserting a corresponding one of the M adjustable tap resistors at a selected one of a plurality of intermediate locations of a corresponding one of the plurality of first resistors as recited in claim 1. Although Kudo shows selecting taps of a resistive ladder, Kudo does not show inserting adjustable tap resistors at selected junctions of a resistor ladder as recited in claim 1.

Kudo FIGs 4A - 4C show and describe an embodiment of the variable resistances 321 - 324 of the resistor ladder 307 of Kudo, in which any one or more of the resistors 4R, 8R and 16R are selectively included within the resistor ladder 307. However, the resistors 4R, 8R and 16R are fixed resistances and are not adjustable tap resistors. As recited in claim 1, each of the M adjustable tap resistors provides a tap voltage. The resistors 4R, 8R and 16R do not provide a tap voltage. Furthermore, these resistors 4R, 8R and 16R are at fixed locations within the resistance ladder 307 and are not inserted at a selected one of a plurality of intermediate locations of a corresponding one of the plurality of first resistors as recited in claim 1.

Kato also does not show a “resistor ladder including M adjustable tap resistors distributed along said resistor ladder, each providing a corresponding one of M tap voltages distributed according to a gamma correction value, wherein M is a positive

integer”, in which the resistor ladder comprises “a plurality of first resistors coupled in series, each of said plurality of first resistors comprising a plurality of second resistors coupled in series forming a plurality of intermediate locations” and “select logic which inserts each of said M adjustable tap resistors into said resistor ladder into M of said plurality of first resistors by inserting a corresponding one of said M adjust adjustable tap resistors at a selected one of said plurality of intermediate locations of a corresponding one of said plurality of first resistors, and that selects a tap point of each of said M adjustable tap resistors to select each of said M tap voltages based on corresponding select values” as recited in claim 1. And any reasonable combination of Kudo and Kato fails to meet the limitations of claim 1.

As shown in FIGs 2, 3 and 5 and as described in paragraphs 31, 32 and 71 of Kato, the adjustment resistor string 21 includes a plurality of resistors $R_{a1} - R_{ax+1}$ connected in series, in which each of the resistors have resistances substantially equal to each other to equally divide the voltage between V_{CC} and V_{SS} . As described in paragraph 71 of Kato, γ -correction voltages may include three or more voltages which are applied to one or more taps of the γ -correction resistor string 41 in addition to both the ends thereof. While such enables adjustment of a higher voltage side or a lower voltage side to improve the accuracy of the adjustment, such has nothing to do with inserting a corresponding one of said M adjust adjustable tap resistors at a selected one of a plurality of intermediate locations of a corresponding one of a plurality of first resistors as recited in claim 1.

Applicant respectfully submits, therefore, that claim 1 is allowable over Kudo in view of Kato. Claims 8-13 are allowable as depending upon allowable claim 1. Applicant requests withdrawal of this rejection.

It is noted that claim 18 was rejected based on Kudo in view of Kato whereas claim 14, from which claim 18 depends, was not. Nonetheless, claim 14 is allowable over Kudo in view of Kato for similar reasons recited above with respect to claim 1. Claim 14 was previously amended to recite a resistor ladder, a plurality of adjustable tap resistors distributed along the resistor ladder and providing a plurality of selectable tap voltages, and a plurality of first resistors distributed along the resistor ladder. Each first resistor is coupled to a corresponding one of the plurality of adjustable tap resistors, in which each first resistor comprises a plurality of second resistors and first switch logic. The second resistors are coupled in series forming a plurality of first junctions, and the first switch logic inserts a corresponding one of the plurality of adjustable tap resistors at one of the plurality of first junctions. Stated another way, the resistor ladder comprises a plurality of second resistors (grouped as “first resistors”), where the second resistors are coupled in series forming a plurality of first junctions, in which each of the adjustable tap resistors is inserted by the first switch logic into the first junctions.

It was stated in the “Response to Arguments” section on page 8 that Kudo shows each first resistor (326-330) comprising a plurality of second resistors (308-313) coupled in series forming a plurality of first junctions. The circuits 308-313 of Kudo, however, are not resistors but instead are “selector circuits” (Kudo, col. 8, lines 59 - 67). The selector circuits 308-313 are described in Kudo with more particularity in FIGS 7A and 7B in which the internal configuration of “one of the selector circuits” is shown as

selector circuit 701 (Kudo, col. 13, lines 25-30). Selector circuit 701 as shown in FIG. 7A of Kudo does not comprise resistors but instead comprises selector group circuits 704, 705 and 706 controlled by register setting circuit 703. The selector group circuits 704, 705 and 706 are switches for selecting between tap points A-H of a resistive divider circuit 702. The selector circuits 308-313, therefore, are not resistors but are switches for selecting tap voltages.

Kudo in view of Kato does not show a resistor ladder comprising adjustable tap resistors which are inserted into selected junctions (as controlled by select logic) as recited in claim 14, so that claim 14 is allowable over Kudo in view of Kato. Suzuki does not overcome the deficiency of Kudo in view of Kato, so that claim 18 is allowable as depending upon allowable claim 14. Applicant requests withdrawal of this rejection of claim 18.

Claim 19 is allowable over Kudo in view of Kato for similar reasons. Kudo in view of Kato does not show a programmable gamma correction voltage generator including “a reference voltage coupled across a resistor ladder comprising a plurality of resistors coupled in series and forming a plurality of intermediate junctions”, “a plurality of potentiometers distributed along said resistor ladder and providing a plurality of variable tap voltages, wherein each of said plurality of potentiometers is inserted at a corresponding one of said plurality of intermediate junctions”, and “select logic” which “selects from among said plurality of intermediate junctions for inserting said plurality of potentiometers and that selects each of said variable tap voltages according to said digital gamma value” as recited in claim 19. In a similar manner as previously described, Kudo in view of Kato does not show selectively inserting potentiometers at selected junctions

within a resistor ladder in which the potentiometers provide variable tap voltages as recited in claim 19.

Applicant respectfully submits, therefore, that claim 19 is allowable over Kudo in view of Kato. Claims 20-22 are allowable as depending upon an allowable base claim. Applicant requests withdrawal of this rejection.

Applicant respectfully traverses the §103(a) rejection of claims 2-4, 14-15 and 17 as being unpatentable over Kudo in view of Kato and Suzuki.

Suzuki does not overcome the deficiency of Kudo in view of Kato with respect to claim 1, so that claims 2-4 are allowable as depending upon allowable claim 1. Likewise, and as previously noted, Suzuki does not overcome the deficiency of Kudo in view of Kato with respect to claim 14, so that claims 15 and 17 are also allowable as depending upon allowable claim 14. Applicant requests withdrawal of this rejection.

CONCLUSION

Applicant respectfully submits that for the reasons recited above and for various other reasons, the rejections have been overcome and should be withdrawn. Applicant respectfully submits therefore that the present application is in a condition for allowance and reconsideration of the claims is respectfully requested. Should this response be considered inadequate or non-responsive for any reason, or should the Examiner have any questions, comments or suggestions that would expedite the prosecution of the present case to allowance, Applicants' undersigned representative earnestly requests a telephone conference at (512) 295-8050.

Respectfully submitted,

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